



Water Management Alliance

Annual Carbon Report

2022/2023 Financial Year Update

Published: December 2023

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1. INTRODUCTION

This report is an annual update to the Water Management Alliance's first-ever full carbon audit (Published February 2023), as it strives to reduce carbon emissions by 50% by 2030. This report now includes emissions data for the 2022/2023 financial year.

The carbon audit will allow the Water Management Alliance to calculate and benchmark its carbon emissions and enable the key sources of emissions to be identified. This report now sits alongside the Water Management Alliance's Carbon Management Plan which sets out short, medium and long term actions to reduce carbon emissions.

2. PURPOSE

The Water Management Alliance would like to commit to the Government's ask of small businesses (SMEs) to commit to take climate action in three ways:

- 50% reduction in greenhouse gas emissions before 2030. (Scope 1 and Scope 2)
- Achieve net zero emissions by 2050. (across Scope 1, 2 and 3)
- Disclose progress on a yearly basis.

3. METHODOLOGY

3.1 The GHG Protocol

The GHG Protocol establishes comprehensive global standardized frameworks to account for and report on greenhouse gas emissions. This carbon audit has been produced in line with the principles of the Greenhouse Gas (GHG) Protocol and UK Government Department for Business, Energy and Industrial Strategy (BEIS) GHG reporting guidance.

The GHG emissions have been calculated by multiplying activity data by the relevant emissions factor:

$$\text{Activity data} \times \text{GHG emissions factor} = \text{GHG emissions}$$

GHG emissions are expressed as carbon dioxide equivalents (CO₂e), and include; Carbon dioxide (CO₂), Methane (CH₄), Nitrous oxide (N₂O), Sulphur hexafluoride (SF₆), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs) and Nitrogen trifluoride (NF₃).

3.2 Scope Definitions

The Green House Gas Protocol defines 3 types of emission categories referred to as Scopes. To help demonstrate Figure 1 is a Scope Infographic. Figure 2 describes each activity the WMA has included within each Scope.

Scope 1 - Direct Emissions from activities under our control. Primarily relating to fossil fuel combustion

Scope 2 - Indirect Emissions from the electricity we purchase and use

Scope 3 - All other indirect emissions from activities, sources we don't own or control

3.3 Organisational boundary

Calculating scope 3 emissions can often be difficult because the data required is mostly held by other organisations in the supply chain. For Scope 3 we have had to be clear which activities we are unable to report on

Included -

- Fuel purchased by WMA for owned plant used for PSCA Work

Excluded -

- Fuel purchased by contractors for their own vehicles and plant undertaking IDB work.

- Emissions from FCERM Capital projects where we use contractors.

- Employee Commuting

For the excluded items we may look to develop a reporting process that would allow us to report these emissions in future annual audits. We will request contractors for any construction projects to inform us of their emission reporting capabilities and which GHG calculation and reporting standards they operate to.

3.4 Coverage

The Water Management Alliance is an umbrella organisation, offering back-office and technical services to a consortium of seven Internal Drainage Boards. Each Internal drainage Boards managed by the WMA is an autonomous local, public body which has statutory duties to the environment as it undertakes its permissive powers.

The IDBs covered by the consortium are included – South Holland IDB, King's Lynn IDB, Norfolk Rivers IDB, Broads IDB, Waveney, Lower Yare & Lothingland IDB, East Suffolk WMB and Pevensey & Cuckmere WLMB. Data has been collected and summarised for individual Boards and collectively as the WMA.

3.5 Target

The IDBs of the WMA have a carbon net zero target date of 2050.

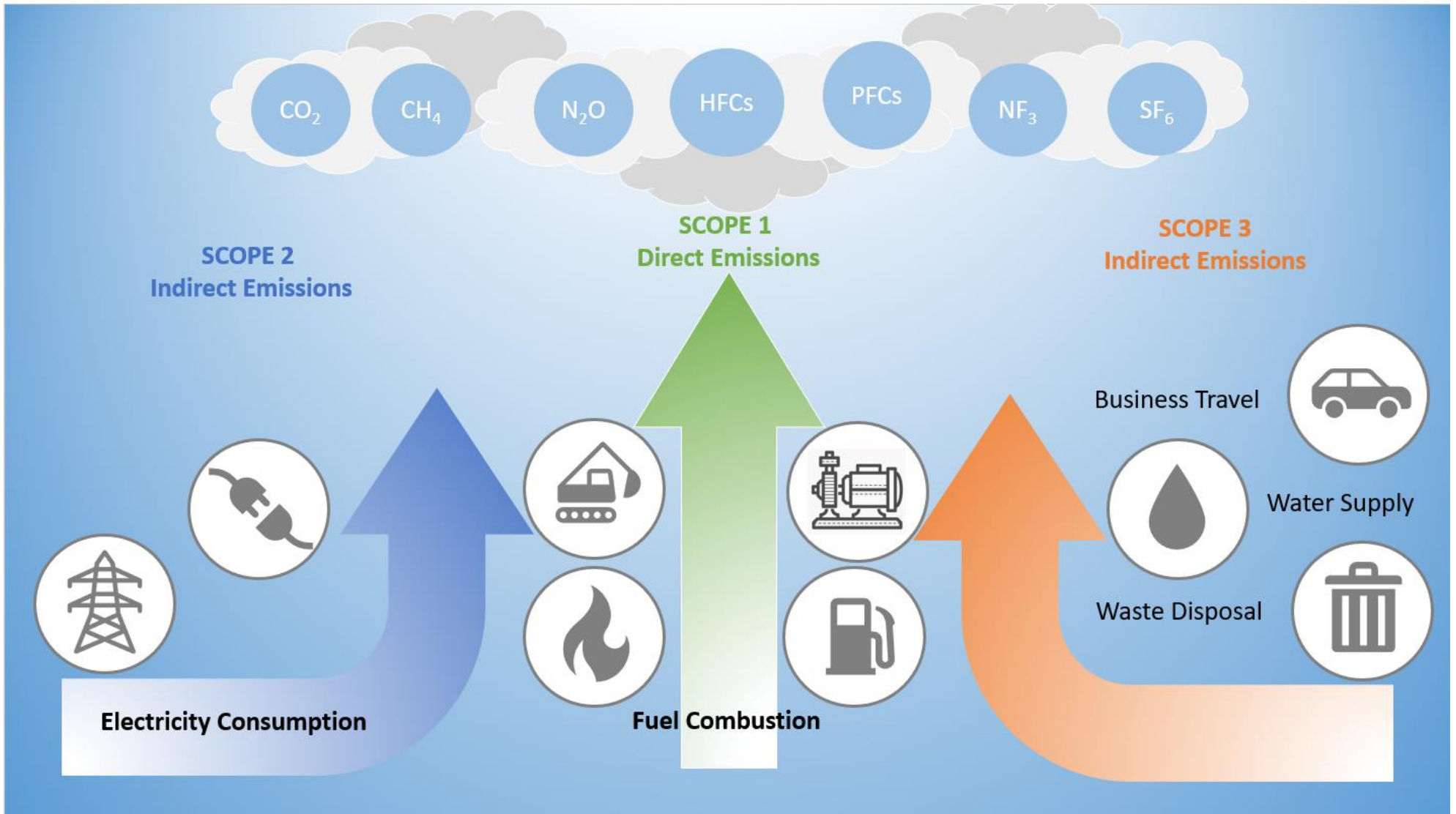


Figure 1: Scope Infographic

Activity	Description	Data Source	Unit	
Scope 1 - Direct Emissions – Fuel Consumption				
Fuel in Fleet Vehicles	White Diesel	operational vehicle Fleet & Plant	fuel invoices	Litres
	Petrol			
	Red Diesel			
	Bio Oil			
Offices	Fugitive Emissions	Air con flouros	EOC Services	Kg
Pumping Station	Red Diesel Generators	Operating Pumping station back-up generators	fuel invoices	Litres
	Unleaded			
Scope 2 - Indirect Emissions – Electricity Consumption				
Electricity Emissions	Offices	Electricity purchased from the national grid to power the WMAs offices and Pumping Stations	utility bills	kWh
	Pumping Station			
Scope 3 - Other Indirect Emissions				
	Electricity Transmission & Distribution Losses	These are indirect emissions from the transmission and distribution of our purchased electricity. It is considered best practise to include these	utility bills	kWh
	Business travel inc Car, rail, and flights	Staff travel - in their own vehicles on business grounds, via train or plane	employee mileage claims / expenses	Miles / km
	Water Supply & Treatment	The supply of water to our buildings and sites. Treatment is the water we return to the system (90% return to sewer rate).	utility bills	m ³
	Waste & Recycling	Weight of Waste and recycling collected from our offices	Veolia Dashboard	Kg

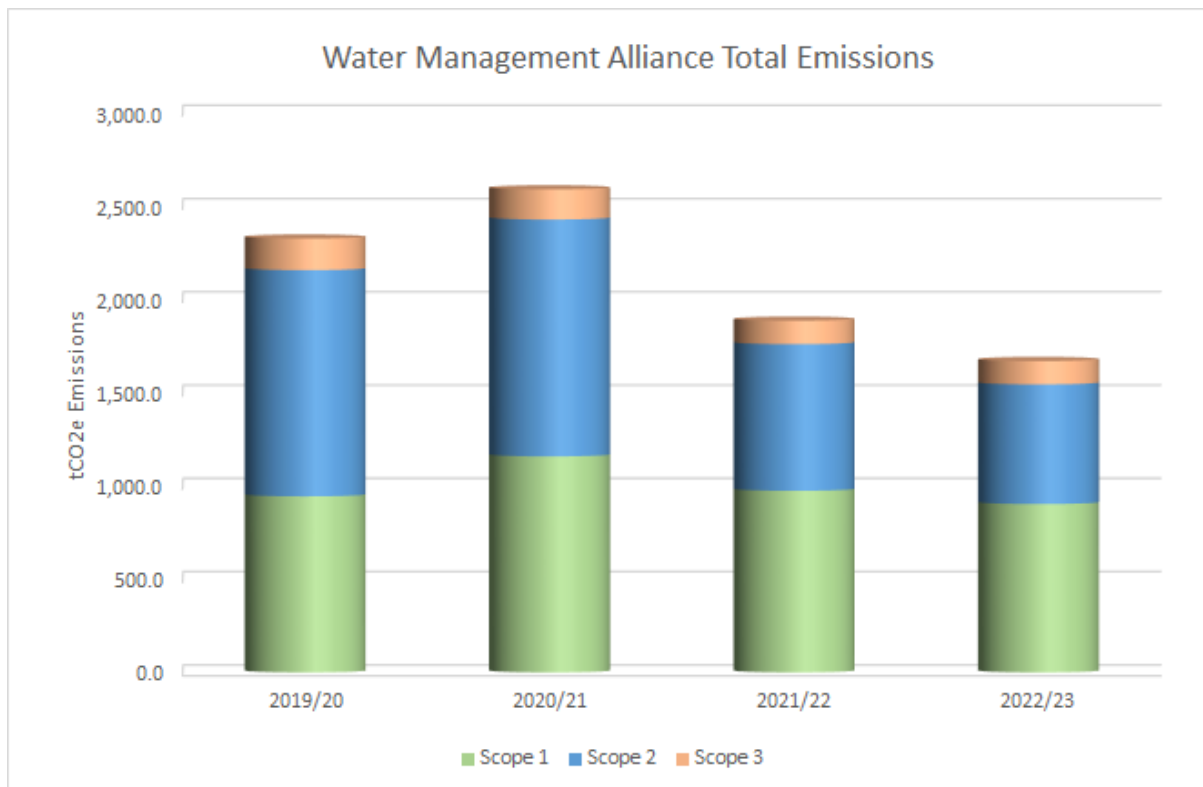
Figure 2: Description of each activity WMA included within each Scope

4. RESULTS

4.1 WMA Summary

The data shows that overall Carbon Emissions in 2022/23 are 28.2% lower compared to our baseline year of 2019/20, a reduction of 656 tCO₂e. The emissions are 11.5% lower compared to 2021/22, a reduction of 216 tCO₂e.

All Board's emissions have reduced in 2022/23 compared against the previous year, 2021/22, except South Holland IDB and Pevensey & Cuckmere WLMB which is further explained within their Appendices.



Scope 1

- Overall Emissions 7.3% lower (reduction of 71 tCO₂e) in 2022/23 than 2021/22, 4.4% lower (reduction of 41 tCO₂e) than 2019/20 baseline year.

Scope 2

- Overall Emissions 18.4% lower (reduction of 144 tCO₂e) in 2022/23 than 2021/22, 47.1% lower (reduction of 571 tCO₂e) than 2019/20 baseline year.

Scope 3

- Overall Emissions 0.5% lower (reduction of 0.6 tCO₂e) in 2022/23 than 2021/22, 26% lower (reduction of 44 tCO₂e) than 2019/20 baseline year.

4.2 Quality Control

The Finance team collating the data have applied data checks and consistency in producing data from the system. All outliers have been checked and explanations sought and documented from individual IDBs where large variations have occurred.

4.3 2022 Weather

2022 was the UK's warmest year on record, with both the average annual temperature passing 10C and temperatures exceeding 40C for the first time ever. This led to the UK's fourth warmest summer on record.

The hot summer and months of low rainfall also dried up rivers, damaged crops and fuelled wildfires, with an official drought declared in large parts of England.

2022 was the eighth driest year on record for East Anglia, which had just 76% of its annual average rainfall. This can be seen in Appendix 8.

This explains why all Scope 2 Emissions, relating to electricity consumption in pumping stations, is lower for every board, excluding South Holland and Pevensey.

4.4 Data

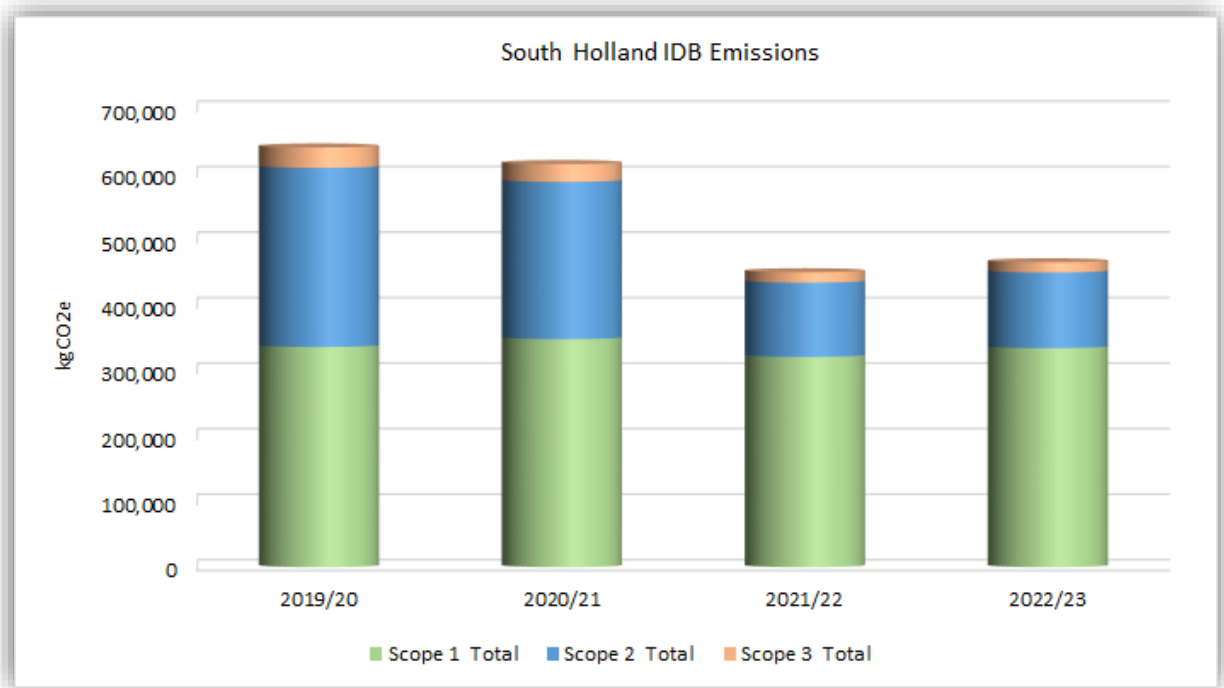
All the Boards are on 'Green Electricity Tariffs' but we have still recorded 100% of the electricity emissions as we do not believe the electricity provided from these tariffs is all from renewables.

		WMA TOTAL kgCO2e Emissions			
		2019/20	2020/21	2021/22	2022/23
Scope 1 - Direct Emissions					
Fuel in Fleet Vehicles	White Diesel	151,605.7	150,615.0	150,444.7	149,113.5
	Petrol	1,826.6	1,643.5	1,560.3	1,121.3
	Red Diesel	730,561.6	885,025.9	744,720.1	741,692.0
	Bio Oil	0.0	0.0	550.0	137.5
	Gas	0.0	13.7	13.7	2,583.2
Offices	Oil	0.0	0.0	0.0	0.0
	Air con flouros	13,303.5	0.0	75,153.1	0.0
Pumping Station	Red Diesel Pump Engines or Generators	46,282.8	120,042.5	617.9	7,231.2
	Unleaded	11.0	362.3	100.5	336.1
Scope 2 - Indirect Emissions					
Electricity Emissions	Offices	23,489.3	17,327.2	19,364.0	21,042.0
	Pumping Station	1,188,238.7	1,251,588.7	766,160.3	620,023.0
Scope 3 - Other Indirect Emissions					
Electricity T&D Losses	Electricity T&D Losses	102,712.9	109,192.1	70,400.8	58,643.3
Business Travel	Private Car Business travel	65,653.4	52,275.5	55,324.2	66,162.6
	Rail	120.3	27.8	117.9	91.6
	Flying	584.5	0.0	0.0	264.3
Water Supply / Treatment	Water Supply	365.9	349.6	58.0	90.0
	Water treatment	26.5	30.8	22.2	82.0
Waste / recycling	Waste	76.6	76.5	117.3	100.7
	Recycling	9.5	9.5	11.6	31.4
TOTAL		2,324,868.8	2,588,580.6	1,884,736.5	1,668,745.6
Scope 1 Total		943,591.3	1,157,702.8	973,160.3	902,214.8
Scope 2 Total		1,211,728.0	1,268,915.9	785,524.2	641,065.0
Scope 3 Total		169,549.5	161,961.8	126,052.0	125,465.8
% Change from Baseline year 2019/20					-28
% Change from 2021/22					-11

APPENDIX 1: SOUTH HOLLAND IDB

1.1 Summary

The data shows that overall Carbon Emissions in 2022/23 are 27% lower compared to our baseline year of 2019/20, a reduction of 175 tCO₂e. The emissions have held relatively stable against 2021/22 with a small increase of 3%, an increase of 15 tCO₂e.



1.2 Results

Scope 1

- Overall Emissions 4% higher (an increase of 13.2 tCO₂e) in 2022/23 than 2021/22, 1% lower (reduction of 1.8 tCO₂e) than 2019/20 baseline year.

Scope 2

- Overall Emissions 2% higher (an increase of 2.2 tCO₂e) in 2022/23 than 2021/22, 58% lower (reduction of 158 tCO₂e) than 2019/20 baseline year.

Scope 3

- Overall Emissions 2% lower (reduction of 0.3 tCO₂e) in 2022/23 than 2021/22, 50% lower (reduction of 15.5 tCO₂e) than 2019/20 baseline year.

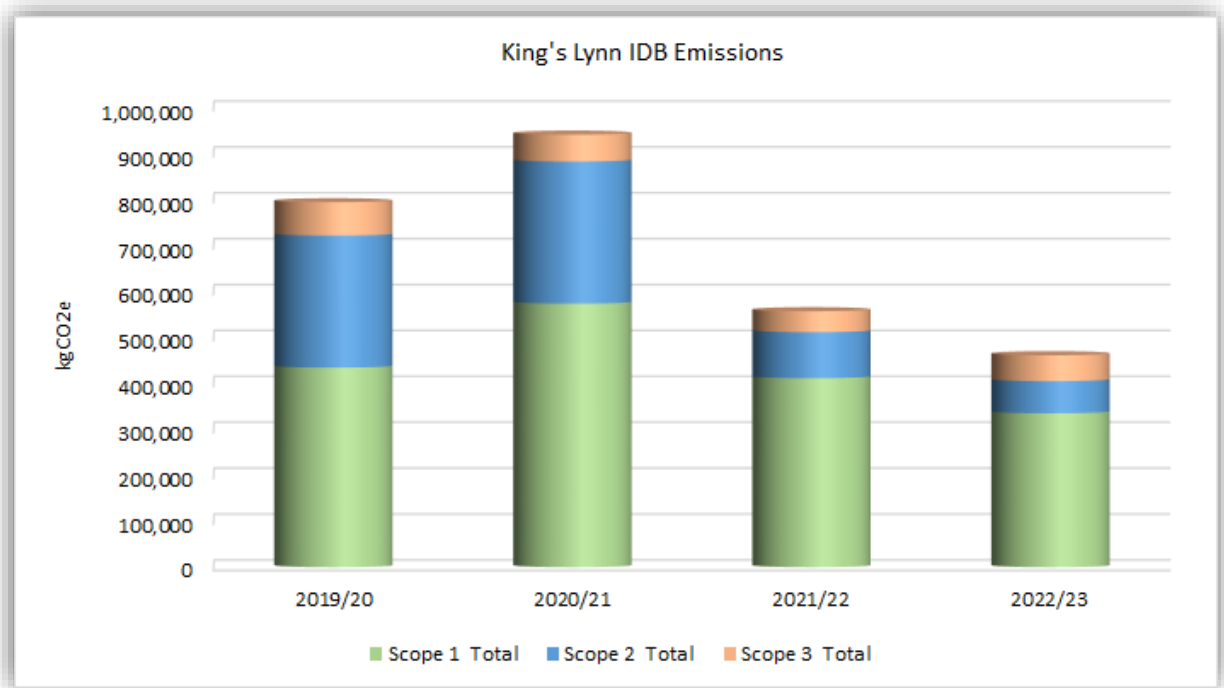
1.3 Data

		South Holland IDB kgCO2e Emissions			
Scope 1 - Direct Emissions		2019/20	2020/21	2021/22	2022/23
Fuel in Fleet Vehicles	White Diesel	37,719.4	35,165.4	28,498.6	39,639.0
	Petrol	521.3	362.1	390.5	261.4
	Red Diesel	293,029.5	308,623.7	291,263.6	293,716.4
	Bio Oil	0.0	0.0	0.0	0.0
	Gas	0.0	0.0	0.0	0.0
Offices	Oil	0.0	0.0	0.0	0.0
	Air con flouros	4,434.5	0.0	0.0	0.0
Pumping Station	Red Diesel Pump Engines or Generators	69.0	3,623.7	617.9	358.8
	Unleaded	0.0	0.0	0.0	0.0
Scope 2 - Indirect Emissions					
Electricity Emissions	Offices	3,571.7	3,607.1	3,525.3	2,909.3
	Pumping Station	269,673.5	236,270.6	109,585.1	112,449.2
Scope 3 - Other Indirect Emissions					
Electricity T&D Losses	Electricity T&D Losses	23,161.8	20,641.8	10,137.3	10,552.8
Business Travel	Private Car Business travel	7,833.9	6,395.6	5,654.1	4,950.6
	Rail	0.0	0.0	0.0	0.0
	Flying	0.0	0.0	0.0	0.0
Water Supply / Treatment	Water Supply	72.2	67.8	15.3	16.8
	Water treatment	0.0	0.0	0.0	0.0
Waste / recycling	Waste	72.6	72.5	106.5	82.6
	Recycling	0.0	0.0	0.0	0.0
TOTAL		640,159.4	614,830.1	449,794.3	464,937.0
Scope 1 Total		335,773.6	347,774.8	320,770.7	333,975.6
Scope 2 Total		273,245.2	239,877.7	113,110.5	115,358.5
Scope 3 Total		31,140.6	27,177.7	15,913.2	15,602.8
% Change from Baseline year 2019/20					-27
% Change from 2021/22					3

APPENDIX 2: KINGS LYNN IDB

1.1 Summary

The data shows that overall Carbon Emissions in 2022/23 are 42% lower compared to our baseline year of 2019/20, a reduction of 333 tCO₂e. The emissions are 17% lower compared to 2021/22, a reduction of 96 tCO₂e.



1.2 Results

Scope 1

- Overall Emissions 19% lower (reduction of 76.3 tCO₂e) in 2022/23 than 2021/22, 23% lower (reduction of 99.5 tCO₂e) than 2019/20 baseline year.
- The consumption of gas has reduced at Kettlewell since we moved into the new Pierpoint office in June 2022. A residual amount is being used for minimal heating.
- The emissions for Air con flouros is zero in 2022/23 as the units were installed in 2021/22 and they have not required topping up.

Scope 2

- Overall Emissions 30% lower (reduction of 30.3 tCO₂e) in 2022/23 than 2021/22, 76% lower (reduction of 217.4 tCO₂e) than 2019/20 baseline year.

Scope 3

- Overall Emissions 24% higher (increase of 10.8 tCO₂e) in 2022/23 than 2021/22, 22% lower (reduction of 16.3 tCO₂e) than 2019/20 baseline year.

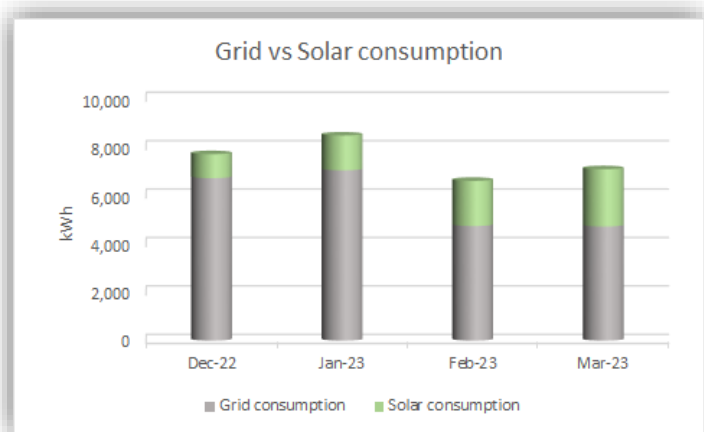
- Business mileage has increased and there was 1,750km of flight emissions resulting from members of the project development and delivery team travelling to the Netherlands to research the Archimedes screw pump technology for the capital replacement projects.

1.3 Data

		King's Lynn IDB kgCO2e Emissions			
Scope 1 - Direct Emissions		2019/20	2020/21	2021/22	2022/23
Fuel in Fleet Vehicles	White Diesel	30,152.8	28,556.1	27,229.1	24,647.1
	Petrol	479.6	419.4	515.9	374.2
	Red Diesel	349,070.8	433,246.9	308,664.7	300,823.4
	Bio Oil	0.0	0.0	0.0	0.0
	Gas	0.0	0.0	0.0	2,560.0
Offices	Oil	0.0	0.0	0.0	0.0
	Air con flouros	8,869.0	0.0	75,153.1	0.0
Pumping Station	Red Diesel Pump Engines or Generators	46,213.8	111,774.8	0.0	6,872.4
	Unleaded	0.0	0.0	0.0	0.0
Scope 2 - Indirect Emissions					
Electricity Emissions	Offices	14,919.2	7,810.7	9,938.8	14,191.4
	Pumping Station	272,442.9	301,665.8	90,346.8	55,768.9
Scope 3 - Other Indirect Emissions					
Electricity T&D Losses	Electricity T&D Losses	24,358.4	26,630.9	8,987.9	6,399.8
Business Travel	Private Car Business travel	47,541.2	31,923.8	36,600.8	49,677.0
	Rail	120.3	27.8	117.9	91.6
	Flying	584.5	0.0	0.0	264.3
Water Supply / Treatment	Water Supply	293.7	281.8	42.7	73.2
	Water treatment	26.5	30.8	22.2	82.0
Waste / recycling	Waste	4.0	4.0	10.8	18.2
	Recycling	9.5	9.5	11.6	31.4
TOTAL		795,086.0	942,382.3	557,642.0	461,874.7
Scope 1 Total		434,785.9	573,997.1	411,562.7	335,277.1
Scope 2 Total		287,362.0	309,476.5	100,285.5	69,960.2
Scope 3 Total		72,938.0	58,908.6	45,793.8	56,637.4
% Change from Baseline year 2019/20					-42
% Change from 2021/22					-17

1.4 Solar Panels

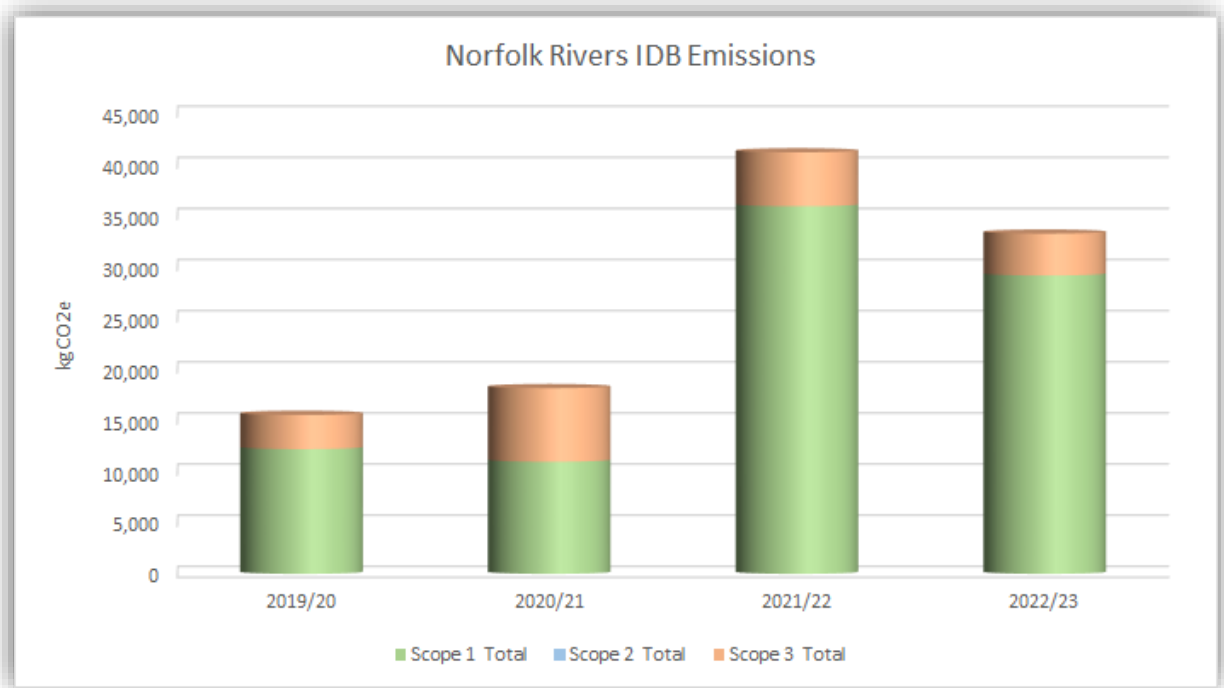
At Pierpoint House we have installed solar panels and battery storage. These were commissioned from November 2022 and will produce 33.5MWh, making the office ~60% self-efficient. A graph of usage in 22/23 is shown here.



APPENDIX 3: NORFOLK RIVERS IDB

1.1 Summary

The data shows that overall Carbon Emissions in 2022/23 are 114% higher compared to our baseline year of 2019/20, an increase of 17.7 tCO₂e. The emissions are 19% lower compared to 2021/22, a reduction of 8 tCO₂e.



1.2 Results

Scope 1

- Overall Emissions 19% lower (reduction of 6.8 tCO₂e) in 2022/23 than 2021/22, 39% higher (increase of 17 tCO₂e) than 2019/20 baseline year.

Scope 2

- No Emissions as there are no Pumping Stations or office

Scope 3

- Overall Emissions 22% lower (reduction of 1.2 tCO₂e) in 2022/23 than 2021/22, 22% higher (increase of 0.7 tCO₂e) than 2019/20 baseline year.
- This is due to a reduction in business miles due to change of staff structure and the mileage allowance available to them.

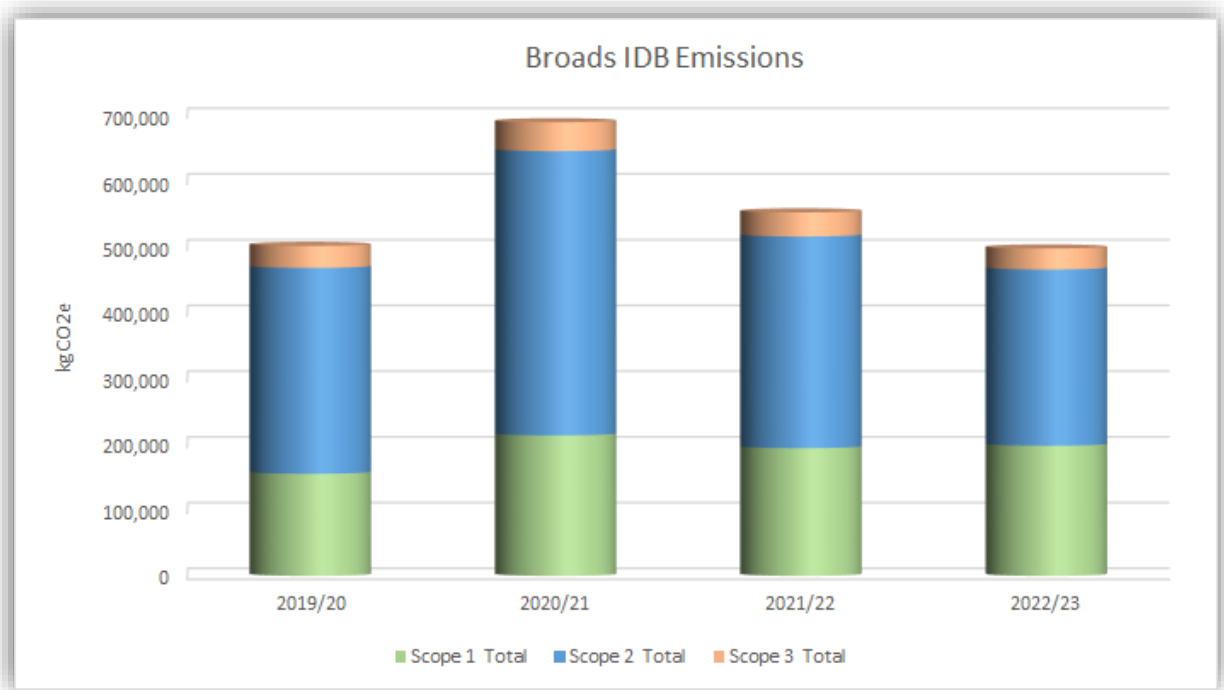
1.3 Data

		Norfolk Rivers IDB kgCO2e Emissions			
Scope 1 - Direct Emissions		2019/20	2020/21	2021/22	2022/23
Fuel in Fleet Vehicles	White Diesel	0.0	0.0	0.0	0.0
	Petrol	0.0	0.0	108.8	99.4
	Red Diesel	12,194.0	10,959.3	35,273.8	29,068.3
	Bio Oil	0.0	0.0	550.0	0.0
Offices	Gas	0.0	0.0	0.0	0.0
	Oil	0.0	0.0	0.0	0.0
Pumping Station	Air con flouros	0.0	0.0	0.0	0.0
	Red Diesel Pump Engines or Generators	0.0	0.0	0.0	0.0
	Unleaded	0.0	0.0	0.0	0.0
Scope 2 - Indirect Emissions					
Electricity Emissions	Offices	0.0	0.0	0.0	0.0
	Pumping Station	0.0	0.0	0.0	0.0
Scope 3 - Other Indirect Emissions					
Electricity T&D Losses	Electricity T&D Losses	0.0	0.0	0.0	0.0
Business Travel	Private Car Business travel	3,345.4	7,195.3	5,280.1	4,092.9
	Rail	0.0	0.0	0.0	0.0
	Flying	0.0	0.0	0.0	0.0
Water Supply / Treatment	Water Supply	0.0	0.0	0.0	0.0
	Water treatment	0.0	0.0	0.0	0.0
Waste / recycling	Waste	0.0	0.0	0.0	0.0
	Recycling	0.0	0.0	0.0	0.0
TOTAL		15,539.4	18,154.7	41,212.8	33,260.6
Scope 1 Total		12,194.0	10,959.3	35,932.7	29,167.7
Scope 2 Total		0.0	0.0	0.0	0.0
Scope 3 Total		3,345.4	7,195.3	5,280.1	4,092.9
% Change from Baseline year 2019/20					114
% Change from 2021/22					-19

APPENDIX 4: BROADS IDB

1.1 Summary

The data shows that overall Carbon Emissions in 2022/23 are 1% lower compared to our baseline year of 2019/20, a reduction of 4 tCO₂e. The emissions are 10% lower compared to 2021/22, a reduction of 55 tCO₂e.



1.2 Results

Scope 1

- Overall Emissions 2% higher (an increase of 3.6 tCO₂e) in 2022/23 than 2021/22, 27% higher (increase of 42.5 tCO₂e) than 2019/20 baseline year.

Scope 2

- Overall Emissions 17% lower (reduction of 54 tCO₂e) in 2022/23 than 2021/22, 14% lower (reduction of 45 tCO₂e) than 2019/20 baseline year.

Scope 3

- Overall Emissions 13% lower (reduction of 4.7 tCO₂e) in 2022/23 than 2021/22, 5% lower (reduction of 1.5 tCO₂e) than 2019/20 baseline year.

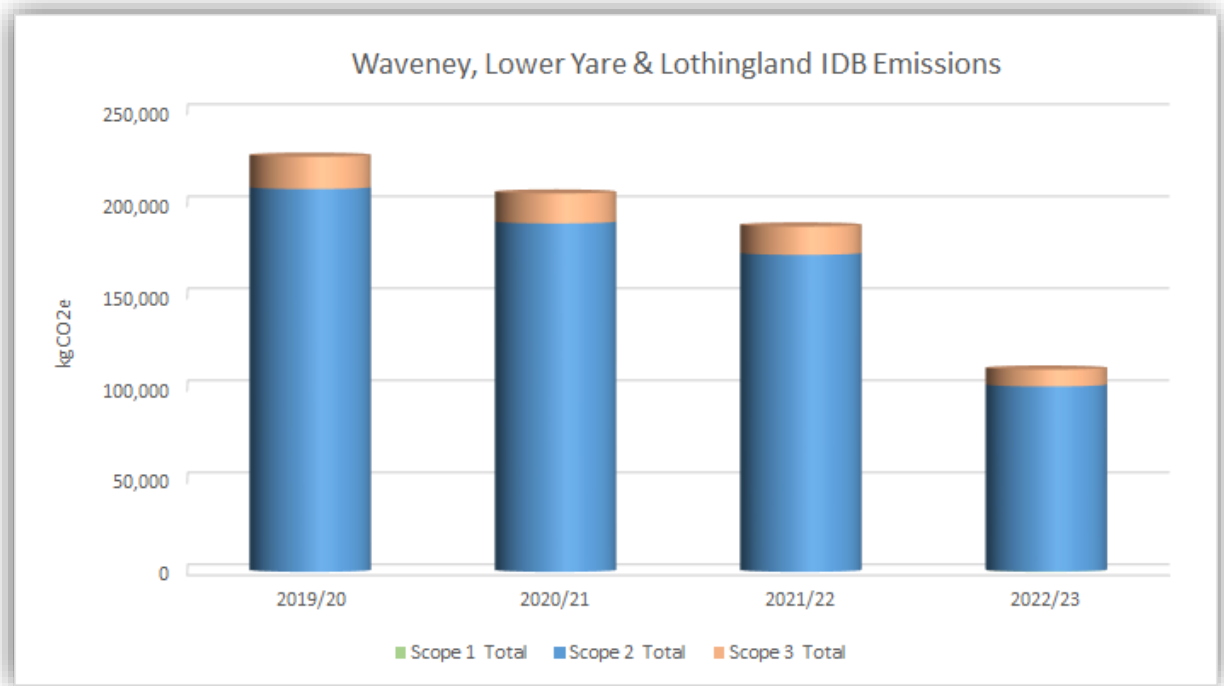
1.3 Data

		Broads IDB kgCO2e Emissions			
Scope 1 - Direct Emissions		2019/20	2020/21	2021/22	2022/23
Fuel in Fleet Vehicles	White Diesel	78,842.3	78,093.9	86,688.6	79,281.6
	Petrol	322.1	513.3	95.7	0.0
	Red Diesel	76,134.9	129,937.4	107,308.4	118,083.8
	Bio Oil	0.0	0.0	0.0	137.5
	Gas	0.0	13.7	13.7	12.2
Offices	Oil	0.0	0.0	0.0	0.0
	Air con flouros	0.0	0.0	0.0	0.0
Pumping Station	Red Diesel Pump Engines or Generators	0.0	4,644.1	0.0	0.0
	Unleaded	11.0	351.4	100.5	336.1
Scope 2 - Indirect Emissions					
Electricity Emissions	Offices	4,998.4	5,909.3	5,899.8	3,941.3
	Pumping Station	307,936.8	426,210.1	315,918.2	263,949.0
Scope 3 - Other Indirect Emissions					
Electricity T&D Losses	Electricity T&D Losses	26,526.1	37,184.5	28,842.2	24,506.0
Business Travel	Private Car Business travel	6,932.9	6,760.8	7,789.2	7,442.0
	Rail	0.0	0.0	0.0	0.0
	Flying	0.0	0.0	0.0	0.0
Water Supply / Treatment	Water Supply	0.0	0.0	0.0	0.0
	Water treatment	0.0	0.0	0.0	0.0
Waste / recycling	Waste	0.0	0.0	0.0	0.0
	Recycling	0.0	0.0	0.0	0.0
TOTAL		501,704.6	689,618.6	552,656.2	497,689.5
Scope 1 Total		155,310.4	213,553.8	194,206.9	197,851.2
Scope 2 Total		312,935.2	432,119.5	321,818.0	267,890.3
Scope 3 Total		33,459.1	43,945.3	36,631.4	31,948.1
% Change from Baseline year 2019/20					-1
% Change from 2021/22					-10

APPENDIX 5: WAVENEY, LOWER YARE & LOTHINGLAND IDB

1.1 Summary

The data shows that overall Carbon Emissions in 2022/23 are 51% lower compared to our baseline year of 2019/20, a reduction of 115.6 tCO₂e. The emissions are 41% lower compared to 2021/22, a reduction of 77.7 tCO₂e.



1.2 Results

Scope 1

- This is the first year there have been any Scope 1 Emissions, resulting in an increase of 0.18 tCO₂e. This relates to diesel used in fleet vehicles but is so low it's not visible on the graph above.

Scope 2

- Overall Emissions 42% lower (a reduction of 71.6 tCO₂e) in 2022/23 than 2021/22, 52% lower (a reduction of 107.4 tCO₂e) than 2019/20 baseline year.

Scope 3

- Overall Emissions 40% lower (a reduction of 6.2 tCO₂e) in 2022/23 than 2021/22, 48% lower (a reduction of 8.4 tCO₂e) than 2019/20 baseline year.
- This only relates to a reduction in Electricity T&D losses as the consumption of Electricity used in Scope 2 has reduced significantly.

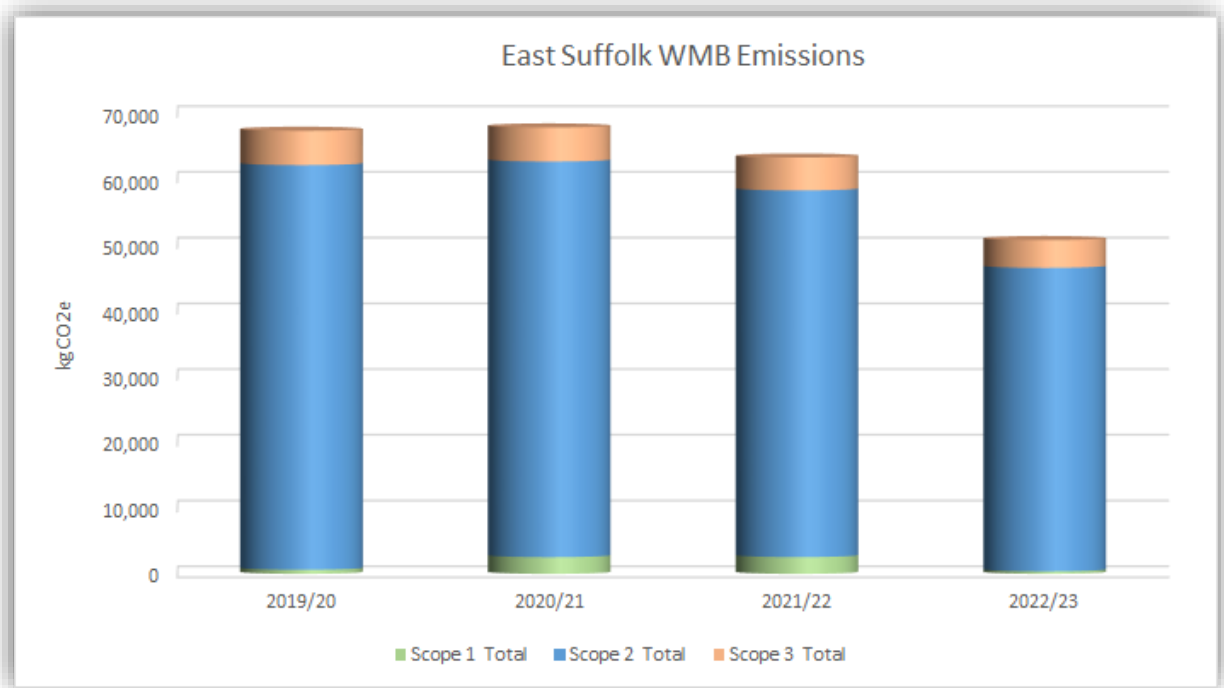
1.3 Data

		Waveney, Lower Yare & Lothingland IDB kgCO2e Emissions			
Scope 1 - Direct Emissions		2019/20	2020/21	2021/22	2022/23
Fuel in Fleet Vehicles	White Diesel	0.0	0.0	0.0	187.8
	Petrol	0.0	0.0	0.0	0.0
	Red Diesel	0.0	0.0	0.0	0.0
	Bio Oil	0.0	0.0	0.0	0.0
	Gas	0.0	0.0	0.0	0.0
Offices	Oil	0.0	0.0	0.0	0.0
	Air con flouros	0.0	0.0	0.0	0.0
Pumping Station	Red Diesel Pump Engines or Generators	0.0	0.0	0.0	0.0
	Unleaded	0.0	0.0	0.0	0.0
Scope 2 - Indirect Emissions					
Electricity Emissions	Offices	0.0	0.0	0.0	0.0
	Pumping Station	207,825.7	189,153.8	172,105.6	100,458.0
Scope 3 - Other Indirect Emissions					
Electricity T&D Losses	Electricity T&D Losses	17,616.5	16,277.0	15,424.6	9,189.7
Business Travel	Private Car Business travel	0.0	0.0	0.0	0.0
	Rail	0.0	0.0	0.0	0.0
	Flying	0.0	0.0	0.0	0.0
Water Supply / Treatment	Water Supply	0.0	0.0	0.0	0.0
	Water treatment	0.0	0.0	0.0	0.0
Waste / recycling	Waste	0.0	0.0	0.0	0.0
	Recycling	0.0	0.0	0.0	0.0
TOTAL		225,442.1	205,430.8	187,530.2	109,835.5
Scope 1 Total		0.0	0.0	0.0	187.8
Scope 2 Total		207,825.7	189,153.8	172,105.6	100,458.0
Scope 3 Total		17,616.5	16,277.0	15,424.6	9,189.7
% Change from Baseline year 2019/20					-51
% Change from 2021/22					-41

APPENDIX 6: EAST SUFFOLK WMB

1.1 Summary

The data shows that overall Carbon Emissions in 2022/23 are 25% lower compared to our baseline year of 2019/20, a reduction of 16.6 tCO₂e. The emissions are 20% lower compared to 2021/22, a reduction of 12.5 tCO₂e.



1.2 Results

Scope 1

- Overall Emissions 84% lower (a reduction of 2.2 tCO₂e) in 2022/23 than 2021/22, 38% lower (a reduction of 0.2 tCO₂e) than 2019/20 baseline year.

Scope 2

- Overall Emissions 17% lower (a reduction of 9.6 tCO₂e) in 2022/23 than 2021/22, 25% lower (a reduction of 15.4 tCO₂e) than 2019/20 baseline year.

Scope 3

- Overall Emissions 16% lower (a reduction of 0.8 tCO₂e) in 2022/23 than 2021/22, 19% lower (a reduction of 1 tCO₂e) than 2019/20 baseline year.
- This only relates to a reduction in Electricity T&D losses as the consumption of Electricity used in Scope 2 has reduced significantly.

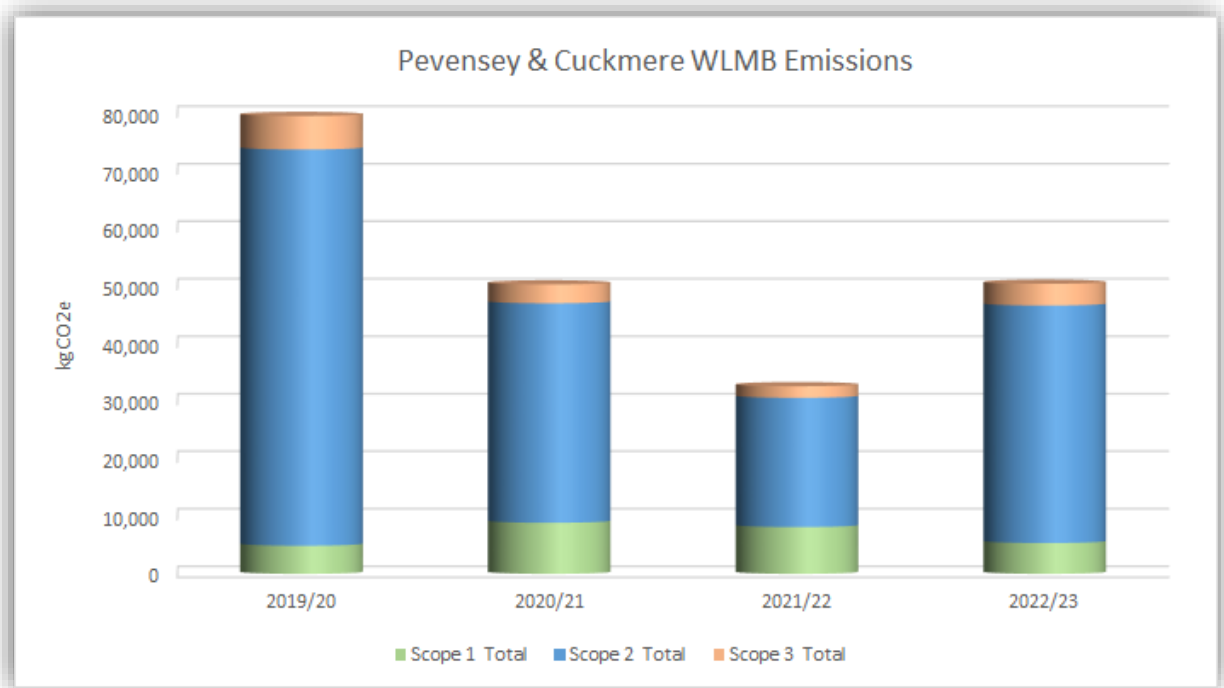
1.3 Data

		East Suffolk WMB kgCO2e Emissions			
		2019/20	2020/21	2021/22	2022/23
Scope 1 - Direct Emissions					
Fuel in Fleet Vehicles	White Diesel	0.0	0.0	0.0	0.0
	Petrol	503.6	270.2	342.9	386.4
	Red Diesel	132.4	2,258.6	2,209.6	0.0
	Bio Oil	0.0	0.0	0.0	0.0
Offices	Gas	0.0	0.0	0.0	11.0
	Oil	0.0	0.0	0.0	0.0
Pumping Station	Air con flouros	0.0	0.0	0.0	0.0
	Red Diesel Pump Engines or Generators	0.0	0.0	0.0	0.0
	Unleaded	0.0	10.8	0.0	0.0
Scope 2 - Indirect Emissions					
Electricity Emissions	Offices	0.0	0.0	0.0	0.0
	Pumping Station	61,511.9	60,152.7	55,745.2	46,128.7
Scope 3 - Other Indirect Emissions					
Electricity T&D Losses	Electricity T&D Losses	5,214.1	5,176.2	4,996.0	4,219.8
Business Travel	Private Car Business travel	0.0	0.0	0.0	0.0
	Rail	0.0	0.0	0.0	0.0
	Flying	0.0	0.0	0.0	0.0
Water Supply / Treatment	Water Supply	0.0	0.0	0.0	0.0
	Water treatment	0.0	0.0	0.0	0.0
Waste / recycling	Waste	0.0	0.0	0.0	0.0
	Recycling	0.0	0.0	0.0	0.0
TOTAL		67,362.0	67,868.5	63,293.8	50,745.8
Scope 1 Total		636.0	2,539.6	2,552.5	397.4
Scope 2 Total		61,511.9	60,152.7	55,745.2	46,128.7
Scope 3 Total		5,214.1	5,176.2	4,996.0	4,219.8
% Change from Baseline year 2019/20					-25
% Change from 2021/22					-20

APPENDIX 7: PEVENSEY & CUCKMERE WLMB

1.1 Summary

The data shows that overall Carbon Emissions in 2022/23 are 37% lower compared to our baseline year of 2019/20, a reduction of 29.2 tCO₂e. The emissions are 55% higher compared to 2021/22, an increase of 17.8 tCO₂e.



1.2 Results

Scope 1

- Overall Emissions 34% lower (a reduction of 2.8 tCO₂e) in 2022/23 than 2021/22, 10% higher (an increase of 0.5 tCO₂e) than 2019/20 baseline year.

Scope 2

- Overall Emissions 84% higher (an increase of 18.8tCO₂e) in 2022/23 than 2021/22, 40% lower (a reduction of 27.6tCO₂e) than 2019/20 baseline year.
- Despite the dry summer the winter was very wet compared to 2021/22 so the pumps ran considerably more hours, as shown in 1.4.

Scope 3

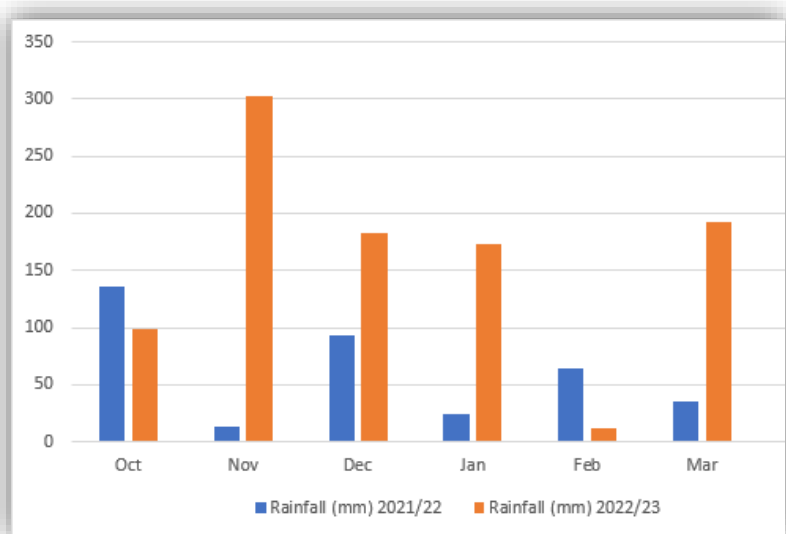
- Overall Emissions 88% higher (an increase of 1.8 tCO₂e) in 2022/23 than 2021/22, 35% lower (a reduction of 2 tCO₂e) than 2019/20 baseline year.
- This only relates to an increase in Electricity T&D losses as the consumption of Electricity used in Scope 2 has increased significantly.

1.3 Data

		Pevensey WLMB kgCO2e Emissions			
Scope 1 - Direct Emissions		2019/20	2020/21	2021/22	2022/23
Fuel in Fleet Vehicles	White Diesel	4,891.3	8,799.7	8,028.5	5,358.1
	Petrol	0.0	78.6	106.4	0.0
	Red Diesel	0.0	0.0	0.0	0.0
	Bio Oil	0	0.0	0.0	0.0
	Gas	0.0	0.0	0.0	0.0
Offices	Oil	0.0	0.0	0.0	0.0
	Air con flouros	0.0	0.0	0.0	0.0
Pumping Station	Red Diesel Pump Engines or Generators	0.0	0.0	0.0	0.0
	Unleaded	0.0	0.0	0.0	0.0
Scope 2 - Indirect Emissions					
Electricity Emissions	Offices	0.0	0.0	0.0	0.0
	Pumping Station	68,848.0	38,135.7	22,459.4	41,269.3
Scope 3 - Other Indirect Emissions					
Electricity T&D Losses	Electricity T&D Losses	5,835.9	3,281.6	2,012.9	3,775.2
Business Travel	Private Car Business travel	0.0	0.0	0.0	0.0
	Rail	0.0	0.0	0.0	0.0
	Flying	0.0	0.0	0.0	0.0
Water Supply / Treatment	Water Supply	0.0	0.0	0.0	0.0
	Water treatment	0.0	0.0	0.0	0.0
Waste / recycling	Waste	0.0	0.0	0.0	0.0
	Recycling	0.0	0.0	0.0	0.0
TOTAL		79,575.3	50,295.6	32,607.1	50,402.6
Scope 1 Total		4,891.3	8,878.3	8,134.8	5,358.1
Scope 2 Total		68,848.0	38,135.7	22,459.4	41,269.3
Scope 3 Total		5,835.9	3,281.6	2,012.9	3,775.2
% Change from Baseline year 2019/20					-37
% Change from 2021/22					55

1.4 Rainfall

The increased rainfall October – March 2022/23 compared to the same period in 2021/22 is shown here.



APPENDIX 8: Maps showing anomalies relative to a 1991-2020 reference period for (left) temperature (C), (middle) precipitation (%), and (right) sunshine (%). The darker shading indicates the greater departure from average. Credit: Met Office, Exeter, UK.

